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A Gordon Publication

Computer Dealer

The Magazine of Computer Merchandising

The cover features a photograph of two men, Martin and Hammond, sitting in front of a stylized set that resembles a radio broadcast booth. The set has a sign that reads "SMOKE SIGNAL BROADCASTING" with a Native American head logo. A computer terminal is visible on the set. The man on the left is wearing a light-colored jacket, and the man on the right is wearing a blue jacket. A green diagonal banner at the bottom right contains the text "BUSINESS FORECAST '79" and "INDUSTRY LEADERS PRESENT THEIR EXPECTATIONS FOR THE COMING YEAR".

Smoke Signal's
Martin and
Hammond
with systems.

SMOKE SIGNAL BROADCASTING

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THE COMING YEAR

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another consideration

The Pilon-30® cassette was developed by Harold Mauch, president of PerCom Data Company. A pioneer designer and manufacturer of products for the personal computing market, and one of two principals whose experimental work led to establishment of the recording technique known as the KC (Kansas City) or Byte Standard. There are probably few if any persons better qualified to develop a cassette that meets the special requirements of the home computerist.



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Closet Bolts, Shaft Muckers, Nipple Chucks and Spline Tighteners

Editorial by Jeff Walden

Pyrophoria, local office heart-throb and the only freelance accountant we know who still uses an abacus, called us up the other day in alternate waves of frustration and rage.

"It's that joker over at the computer place," she wailed. "He told me I needed my bits sliced. Was I being insulted?"

Now, Py can make your P&L statement bring tears of sympathy to the eyes of an Internal Revenue investigator as he writes out your five-digit refund; but she doesn't know a PEEK from a POKE, and the only accounting trail she's heard of are the legendary ones through the woods at the annual Accounting Society picnic.

Well, maybe she wasn't feeling as much insulted as she was "put-down." No dealer in his right mind would intentionally belittle a potential customer, but use of our beloved arcane computer jargon is a bit mystifying to the novice—and first-time users are indeed novices, even the ones who will never touch finger to keyboard of the system they buy.

Every industry has its technical vocabulary, and indeed, most couldn't function without it. We computer people are by no means unique in liking to set ourselves off from the layman with specialized mumbo-jumbo.

Take, for example, closet bolts. Are they something with which to lock the doors of your armoire while away sunning yourself at the beach? No. They keep your potty firmly attached to your bathroom floor.

Or, a shaft mucker, say. That conjures up a romantic image of a Borneo wild-man, matted

hair flying in the breeze, as he does immense bodily harm to an unarmed urban citizen through the medium of a rusted truck axle swung with wrist-english from behind his right shoulder. A shaft mucker removes rock and ore from the bottom of a mine.

Nipple chucks and spline tighteners we'll leave to your imagination.

We're sure you've gotten the point. We must communicate in the language best understood by the person to whom we're communicating; otherwise the message doesn't get through.

And the next time you're slicing bits—take a picture of it and we'll velox it.

A Computer Dealer Invitation. . .

As people who deal with words most days, we here at CD are always interested in the directions which basic English (no pun intended) can be twisted in the normal course of things.

We make this invitation: the next time you "get your bits sliced" (whatever you take **that** to mean), send us a black and white glossy photo of your interpretation, and we just **may** velox it. All entries are used only at the discretion of our Editor, and cannot be returned. We'll publish a winner when we find one we like, and think that you'll like too.

Send your photos to:

**Bits and Pieces Editor
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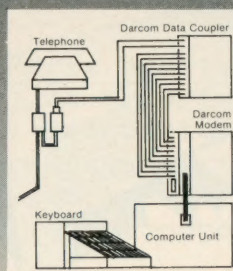


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"That doesn't make it the most important product in the world. I sell computers, too, you know!"



"Well, on the other hand, I will admit Integral Data is a good company to work with. I don't get hassled by any middlemen. Accessories and spare parts are easy to get. And, they do offer excellent discounts and dealer incentives."



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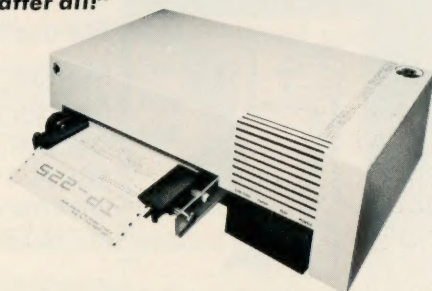
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GETTING READY FOR THE 1980's. Are you marketing small business systems to the first time DP user? If so, will you be able to compete against the distribution channels of the 1980's? First of all, one has to figure out what that business mini of the future will be like. And what it will sell for.

Here's what we see it looking like in three years. It's an integrated, portable 60 pound unit. Full CRT with graphics. Fast QUME/DIABLO-type printer. A split (for backup) 20MB minidisc. The unit will be, essentially, non-programmable. It will come with horizontal business and WP package; plus pluggable vertical application packages as options.

This system will sell for no more than \$10K. And each application package option will run \$100-\$1,000. The smart manufacturers will be giving 50% discounts to its dealers. And they'll both make a profit. Many of the software options will be sold by independent software companies.

The secret word is "essentially nonprogrammable". Because of the companies that are expected to sell directly to the first time user. We expect IBM (Office Products) and Xerox will be selling them the way they sell typewriters and copiers. And manufacturers such as TEXAS INSTRUMENTS will sell them through dealers.

The way most single user word processing systems are sold today is how these systems will be sold in 1982. Think about it. We have, a lot. In fact, we're writing a book about it!

AND SPEAKING OF IBM. If someone peeked into their research labs, here's what they would see. The IBM 1982 machine uses a digital videodisk. Its broadband communications capability allows it to act as a Telecopier or Qwip. And it does such things as payroll, general ledger and even letter composition.

BETTER STOCK UP ON CRT's. Parts shortages are getting worse - not better. Several months ago, we reported in *The Computer Marketing Newsletter* that the terminal manufacturers were suffering part shortages. Seems that they underestimated the demand for their products. The key item is microprocessors. And the semiconductor companies can't ramp up manufacturing fast enough to satisfy the increased

(over)

COMPUTER DEALER NEWSLETTER (continued)

volumes. One company recently turned down a 5,000 unit terminal order because it couldn't deliver.

INTERNATIONAL PERSONAL COMPUTER SCENE. According to Practical Computing magazine, COMMODORE's Pet is the leading product in Great Britain. In September, 500 systems were sold - bringing the total to 1,500 in the U.K. and 3,000 in Europe. The basic system sells for about two times U.S. prices (£695 including value added tax) as do other systems. Applications are running 5% games, 20% business and 50% education and scientific. Runner-up competition to Pet goes to APPLE and RADIO SHACK.

FREE GIFT TIE-IN OFFER. Have you tried to tie-in a gift to induce purchases? Don't laugh, it does work. If you have a product that sells in volume, you can easily test this scheme. Especially if you use direct mail marketing. Split the mailing in two. To every even name include some bonus offer. To every odd name, don't. The gift could be for just responding to your offer, if you are looking for prospects. Pick the bonus to match your audience. Be sure to mention its retail value (you'll usually pay no more than 60% of retail in modest quantities). Popular items are printed matter, miniature radios and calculators, to name a few. Tests have proven that a properly prepared offering will more than cover the cost of the gifts.

There are two keys to a successful gift tie-in campaign...Proper gift selection and proper presentation of the gift tie-in. Also, you should establish a deadline date for the recipient to be eligible for the gift. Even if you don't use direct mail, think of a way to employ such a scheme. Let's say you're a computer retailer. Do you have some inventory that isn't moving? Use it as the tie-in to increase your other product sales.

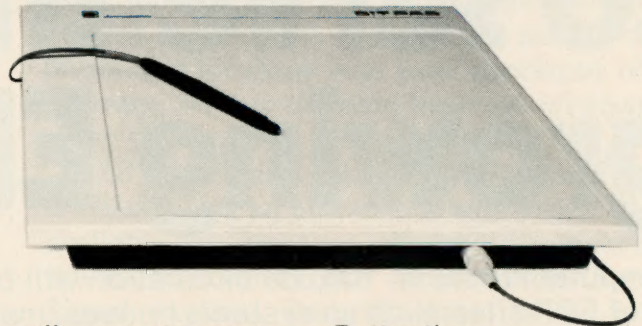
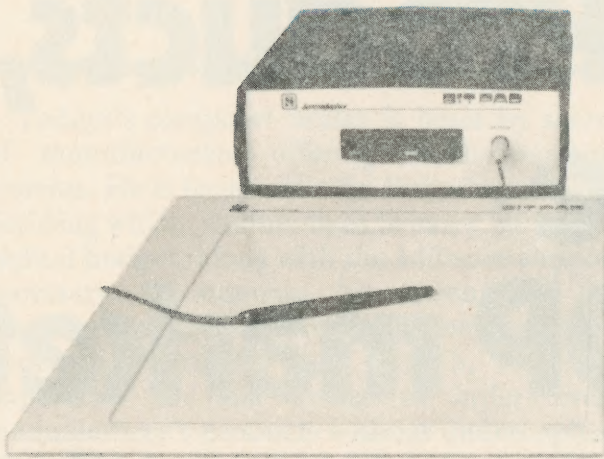
A word of caution. Sit down and do all the calculations. For example, what extra product movement is required to offset gift cost? Lots of industries - including ours - use gift tie-ins. Maybe you can't use it. But, again, maybe you can. Always remember: You're in the business of moving product, profitably. How can you increase movement? It's called marketing - not selling.

HERE'S A GIFT TIE-IN. And the price is right - it's free. NCE/COM-PUMART's is Getting Started with Microcomputers. Book retail price is \$2.95. It evaluates 25 books and periodicals on current technology and recommends each for its usefulness. Also includes pricing and capabilities of microcomputer systems. This gift offer is an example of getting prospect names for its mail order business. For a free copy, contact them at P.O. Box 8610, Ann Arbor, MI 48107.

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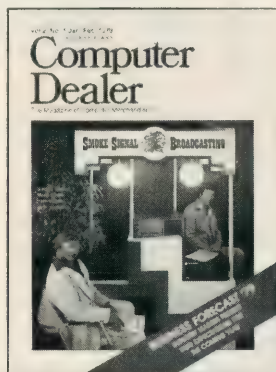
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Cover Story:



Smoke Signal Broadcasting "Solves" the Problem of Under-capitalization: the 6800-Based Microsystem

Today's computer dealer is beset by scores of manufacturers offering small business systems. He is faced with the Herculean task of deciding which product lines to carry on a fixed capital budget, along with the software support necessary to augment his inventory. The marketplace is so dynamic, with new products appearing virtually every month, that it's impossible for the dealer to order every manufacturer's products without undercapitalizing. This becomes a problem of tremendous importance.

One manufacturer, Smoke Signal Broadcasting, of Hollywood, California, has eased this dealer's burden by introducing a 6800-based microsystem which they say is far superior to the 8080. According to Smoke Signal, their 6800 has proved more reliable and easier to use—in every application—while its versatility has "enhanced the product line innovation and expansion."

According to Ric Hammond, Smoke Signal Broadcasting's president, and Ed Martin, vice president, the solution to the dealer's undercapitalization problem is the "Chieftain," a 6800-based microsystem encompassing programming support, documentation, training and software maintenance in addition to the hardware and peripherals. Hammond explains, "One of our major advantages is that it's the only business-oriented 6800 microprocessor system on the market. If you're programming

BASIC, this may not make a difference, but there are thousands of development systems using software programs on the 6800 that can't be used on the 8080. So while the market may be smaller for those who have developed 6800 software, ours is the only business microcomputer system using the microprocessor."

SSB's marketers claim that, for the dealer, it's like having an automobile with every option available plus great gas mileage—a comparison the manufacturers like to use often. Smoke Signal explains that its intent is to bring reliability, versatility and support to the marketplace with a system that is cost competitive.

Smoke Signal offers a basic business package that can be customized to any given application. According to Martin, "Many computer manufacturers have a tendency to build a system and supply a big software package that tries to do everything for everybody, but doesn't. 'We have found the specific areas our system fits into and we can provide the dealers with an effective way to sell those applications.'"

The minimum Chieftain System comprises two 9" disk drives or two 5-1/4" mini-floppies, 32K RAM memory, a 2K RAM monitor and two serial interface ports. The key features are that it's expandable to 64K and the number of slots on the motherboard has been increased to nine in addition to the eight I/O slots. Moreover, a 6809 processor board is forthcoming 13

Smoke Signal

and the software is source code compatible with the current board. "The fact that the 6809 has 2-1/2 times the throughput of the Z-80, combined with the flexibility of the SS-50 bus, should give us all the sales we can handle," Martin believes, "and we could conceivably double our sales volume over the next year."

Smoke Signal Broadcasting has current agreements with 65-70 dealers nationwide and about a dozen overseas. Maintaining constant contact with them, however, does not seem to present a major problem. Martin has flooded them with newsletters and calls them—all—at least once a month. "One of the programs we've started has been dealer specials," he says. "The first one we ran was a memory board special during which we accepted orders at a reduced dealer price while retaining the suggested retail price. We plan to continue this program on a regular basis because it has proved to be mutually beneficial."

As a manufacturer of mainframe and peripherals, Smoke Signal sees its dealers as a large OEM customer base. Ideally, a large customer base is highly desirable, but an inherent problem is that expansion is precluded by long-term production scheduling. "As a result," says Hammond, "we require that dealers place an initial minimum order and suggest they stock at least one of each item."

"However," he adds, "there is no requirement for dealers to maintain a minimum stock level."

Manufacturers like Smoke Signal Broadcasting were previously able to build a product line based on product maturity, acceptance and knowledge of the marketplace. For a multitude

of reasons, that direct control does not exist today, and those manufacturers whose primary outlet is through dealers are very lucky if they have more than a 60-day projected requirement from dealers at any one time.

The dealer, on the other hand, is receiving quotes on a 45-day delivery when he needs it in two weeks. For Smoke Signal, this is the major support obstacle. Suggests Martin, "Dealers should establish a 'shelf stock' of products rather than relying on manufacturers for rapid delivery. It would alleviate 90% of the problems associated with lost sales and customer dissatisfaction due to long lead times." The key to 'shelf stock,' he believes, is to make available to the dealer a business system that he can sell regularly, promote customer loyalty in and provide service support for. It also allows the dealer a greater degree of flexibility in choosing other product lines to carry.

The prospective user of such a system is a small business grossing \$500,000 to \$5 million per year and spending around \$3000 per year on accounting services, etc. Assuming the user can write off \$8000 to \$10,000 over a two or three year period to pay for a small business system, then there would be sufficient cost savings in controlling an inventory of several thousand items and a payroll of a dozen people.

Manufacturers like Smoke Signal Broadcasting are willing and capable of providing the many types of support service that a dealer organization needs. By recognizing the customer's requirements, the manufacturer and dealer can solve the undercapitalization problem together. ●

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Business

Business Forecast '79: Shakeouts and Upswing



Computer Dealer contacted a number of prominent industry spokespersons for their views on the coming year. Not everyone we would have liked to include could be contacted; not everyone who was contacted replied. Overall, anticipations for the coming year were optimistic, with a strong gain pictured especially for the software industry.

"With the steady decline in the cost of computers, the human labor involved in data-entry, programming and maintenance has emerged as by far the most expensive factor in data-processing. For example, a computer which sells for \$16,000, or rents for about \$4000 per year, is typically used by an operator whose annual cost to the company is in excess of \$12,000 per year. The operator, therefore, is now more than three times as expensive as the computer.

"It can be expected that the cost of such a computer system will go down by 50% to \$2000 per year over the next five years, while the cost of the operator will go up by 50% to \$18,000 per year. This 9:1 ratio in human vs. hardware costs is the critical factor which should determine the re-direction of present policy in designing the office of tomorrow.

"Similarly, maintenance on such a system is now about 10% of the purchase price, or \$16,000 per year, and is expected to increase by 50% to \$24,000 annually over the next five years. At that point, maintenance will be more expensive than the computer system itself.

"For these basic reasons, an ultrareliable computer system costs much less overall than the "cheapie" systems now being promoted for the home, hobby, and business markets."

*Daniel Alroy
President
Q1 Corporation
125 Ricefield Lane
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“...the cost of...a computer system will go down by 50%...This is the critical factor...in designing the office of tomorrow.”

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60007*

“I feel that 1979 is a springboard into the 80's. The 80's will be a wild market place for computer manufacturers, dealers, and support people. The price versus benefits ratio will continue at an accelerating rate. By the end of 1979 we may well see the average business computer list price 50% below what it was in November of '78. This downward pressure is going to be very hard on manufacturers, middlemen and dealers. We will continue to see some of the “Big Boys” drop by the wayside.

“As the hardware prices continue their dramatic drop, it will continue to put pricing pressure on software. It's going to take more selling ability and consumer education to get them (the end user) to understand that something they cannot see, i.e. software, becomes an ever increasing amount of the total price of installing a system. With labor costs continuing to rise, software purveyors are going to have a tougher and tougher time breaking even.

“The dealer who intends to give his customer ‘full service’ must become ever more budget conscious, particularly in the area of software support and service. Service rates based upon a factor of ‘list price’ are going to have to be carefully analyzed so that the ultimate rate is really based upon costs and not upon guesstimate.

“As President of the National Office Machine Dealers Association (NOMDA), I assure you that our officer team and leadership will continue to put increasing emphasis upon educating the office machine dealer in the problems, pitfalls and promises of the mini-computer field.

“1979 should be exciting.”

*Gene Carter
Vice President, Sales
Apple Computer, Inc.
10260 Bandle Dr.
Cupertino, CA 95014*



“The outlook for this past year has been dedicated to establishing a market for affordable computing power to the small businessman and the personal computer enthusiast. The future of this pioneering year is already taking shape. Businessmen have shown a real interest in automating their accounting procedures. The professional has begun to look to the personal computer as the next step up from his programmable calculator. The intellectual is using the personal computer to stimulate thought, creativity and interest just as he has done in the past with other mental exercises like chess, bridge, technical reading and research. Children of all ages have the most fertile minds and a voracious appetite for the challenge of using a computer.

“Our greatest challenge for the coming year is customer and dealer education. The major complaint voiced by the consumer is the lack of knowledge shown by the dealer in how to demonstrate computer equipment. Many of these potential customers want a

“By the end of 1979 we may well see the average business computer list price 50% below what it was in November of ‘78.”

**Burt Aus, National Office Machine
Dealers Association**

‘reason’ for buying a computer and were not given adequate justification for a purchase. Providing examples of real applications, more and more applications software, and a ‘sales presentation’ approach to doing business will convert the doubters to doers.

“The industry will move towards supplying additional software packages and computer programming languages to reach even more of the population. Less than 0.1% of the households purchased a personal computer during 1978. This number will grow by a factor of 5 in 1979 and again in 1980.”

“1. There will be continued growth in the hobby market, but this segment is becoming smaller percentage wise.

“2. The hobby market, particularly the kit segment, will essentially be neglected by most manufacturers thus creating an on going opportunity for small firms.

“3. Personal computing sales will be sluggish in 1979, especially to individuals who must contend with inflation and other economic problems. There will also be competition from other consumer electronic ‘goodies’ like VCRs, and video disks that should appear in a 1979. Nevertheless there will be good growth. Small business use of personal computers will continue to grow.

“4. Traditional large system and minicomputer manufacturers (IBM, DEC, DG, hp, Wang, etc) will continue to penetrate the small computer market. Despite price advantages, personal computer manufacturers will find it hard to compete because of software and service weaknesses.

“5. The ‘shakeout’ of personal computer manufacturers that started in 1978 will continue through 1979. History repeats itself as microcomputers go through the same development cycle as minis did 10 years ago, but at an accelerated pace.

“6. Some personal computer manufacturers will announce their ‘2nd generation’ machines during 1979. Best guesses: Apple, Heath.

“7. TI will finally announce their long awaited personal computer. It will be more expensive than originally expected, and sales will be lower than anticipated. But it will be popular and successful.

“8. Video game manufacturers will take a stab at the personal computer market with programmable versions (BASIC, ROM cartridges, etc.) Success will be minimal. The new Magnavox Odyssey with full keyboard at less than \$200 looks promising. (Does anyone have a tiny BASIC for the 8048 cpu?)

“9. The home computer movement will still not ‘take off’ as expected. There is still some consumer reluctance over buying a

*Louis E. Frenzel
Director of Marketing
Heath Co.
Benton Harbor, MI 49022*





“...something sold was something gone from the store...may be the case for ‘home’ computers, but it is not and never will be true for expandable business systems.”

Lewis F. Kornfeld, Radio Shack

Louis E. Frenzel ‘computer’ as people don’t know what to do with it or how to program.

“10. Lots of useful ‘canned’ software is still the best bet for selling a personal computer to **anyone**.

“11. Education is the key factor in selling computers to serious buyers. Teach programming and applications and you will sell computers.

“12. More low cost peripheral units, both I/O and mass storage, will appear in 1979. Look for cheaper printers and floppies.

“13. No new S100 bus computers will be announced in 1979. Use of this bus will continue to decline although sales will still be significant for many years.

“14. Several new 16 bit microprocessor based personal computers will be announced in 1979. Best guess at the cpus: 8086, 9900.

“15. PASCAL will not really get off the ground in 1979 as the rumors predict. There will be continued development in the PASCAL movement, but percentage wise it will be very small. BASIC will continue to dominate.

“16. The emphasis will continue to shift from hardware to software as more people realize that this is where the great need is. The number of small firms selling software will increase. The ones that shun games for serious applications software will do best.

“17. The implementation of personal computing communications networks will make little or no progress in 1979.

“18. A low cost microcomputer based robot kit will be introduced in 1979.

“19. The long awaited breakthrough of CAI(computer aided instruction) on low cost personal computers will not take place. The reason: lack of authors to write good “courseware” or teaching materials and lack of software and I/O format standardization.

“20. The number of computer stores will continue to grow as most companies have determined that this is the best way to sell microcomputers.

“21. Japanese microcomputers will not really be a factor in the personal computer market in 1979. Reason: major weaknesses in software, documentation, applications and education. US manufacturers take note. You can still be competitive.

“22. The key to increased market penetration in the hobby and home market sectors in 1979 are a) lower prices, b) meaningful applications software and c) customer education.

“The increasing number of manufacturers relying on dealers will create competition for good dealers on the basis of better margins, delivery and quality.”

William H. Gates, Microsoft

“1979 will see the fulfillment of the promises of past years: Microcomputer based systems for business use will become reliable, practical, and well supported. The personal computer market will see incredible expansion with the introduction of Atari’s and Texas Instruments’ computers and continued success by Radio Shack.

“The ‘coming of age’ of the business computer market will be the result of many factors. Most important is software. Quality applications packages written in high level languages are becoming available. The new COBOL compilers and further improvement in the most popular micro language, BASIC, will aid in this effort. Microsoft will introduce an APL for use in financial and statistical applications, a BASIC compiler, and a data base manager, as well as continuing to improve its existing language packages.

“The hardware contribution to the new business systems will be large capacity disk systems, and improved price/performance. The increasing number of manufacturers relying on dealers will create competition for good dealers on the basis of better margins, delivery and quantity.

“By the end of 1979 computer systems based on the Zilog 8000 and Intel 8086 will be available. Since June 1978 Microsoft has devoted most of its resources to preparing high level language software and most other systems software for these new microprocessors in order to assure that the software will be ready when the hardware is. Since these language packages will be compatible with the previous packages for 8-bit computers, applications programs won’t need to be regenerated. The increase in speed and memory size as well as provisions for multi-user systems of these new chips will boost micro based systems into the same class as minicomputers. This will have an incredible impact on the usability of a \$10,000 microcomputer system allowing for increased growth in this already explosive industry.”

*William H. Gates
President
Microsoft
819 Two Park Central Tower
Albuquerque, NM 87108*



“In 1978, we (the industry) came to thoroughly understand the importance of the retail distribution channel as we watched Radio Shack come from nowhere to become by far the dominant supplier of small computers. I estimate that Radio Shack has sold 100,000 computers, half of those sold to date by the entire small computer industry. Their 7000-store network is a formidable force.

“Independent computer stores are the only force that can oppose the Radio Shack chain at present. As manufacturers, such as TI, plan their entries, they must be very discouraged by the lack of distribution capabilities of the industry. As with many problems, however, there is a companion opportunity. Many new attempts at the retail distribution of computers will be made. Present office

*Portia Isaacson, Ph.D.
EDS Fellow
Electronic Data Systems
7171 Forest Lane
Dallas, TX 75230*



“Many new attempts at the . . . distribution of computers will be made. Present office equipment suppliers will add computers to their lines.”

Portia Isaacson, EDS Fellow

Portia Isaacson



equipment suppliers will add computers to their lines. Present stores will try their hand. Computer manufacturers will open their own stores. Software companies will open stores. There will be no shortage of entertainment as we watch each of the diverse industry segments try to sell a machine whose greatest advantage—its universality—makes it very difficult to sell.

“But what about the products? The first round of would-be consumer computers have been tested in the market place. A number of lessons were learned. Apple learned that the price should be under \$1000. Commodore learned that a standard typewriter keyboard is required. Radio Shack learned that color graphics are very desirable. Video Brain learned that home computers should be programmable. Because of these lessons the next round of products will be much better. Also computer technology is changing so rapidly that the competitive life of a product is about a year. In 1979, I predict that some company will introduce the home computer described in the last column of Figure I. It is a simple extrapolation of present products incorporating new lower-cost disk technology.”

	Apple	Radio Shack TRS-80	Video Brain	My Guess at Somebody's 1979 Computer
Microprocessor	6502	Z80	F8	Z80
Resident Language	Basic	Basic	No	Microsoft Basic
Non-resident Language	Microsoft Basic	Microsoft Basic	APLS	Pascal and Animated Graphics Language
Resident ROM	8K	4K	4K	12K
Resident RAM	4K	4K	1K	8K
Program supplied on Keyboard	Audio Cassette	Audio Cassette	ROM/RAM Cartridges	ROM/RAM Cartridges
Text Format (chars x lines)	Typewriter	Typewriter	Unique 36-key Typewriter	Typewriter
Graphics Resolution	40 x 24	64 x 16	24 x 16	80 x 24
Graphics Configuration	1,920	6,144	92,736	92,736
Sound	40 x 48	128 x 48	192 x 483	192 x 483
Printer	Standard	No	Standard	Standard (also voice output)
Telephone	Optional	Optional	Optional	Optional (\$250)
Audio Cassette	Optional	Optional	Optional	Optional
Disk	Standard	Standard	Optional	Standard
Price	Optional	Optional	No	Optional (\$300, second drive \$250)
	\$970	\$600	\$300	\$500

*Lewis F. Kornfeld
Executive Vice President,
Tandy Corp.
President, Radio Shack
1600 One Tandy Center
Fort Worth, TX 76102*

“It scarcely needs repeating that the Radio Shack division of Tandy Corp., which designed and manufactures the Radio Shack TRS-80 personal microcomputer has a rather wide edge in unit deliveries of micro systems as well as in places where such equipment is displayed, sold, serviced and advertised. We anticipate maintaining this lead for 1979 and feel confident in predicting another good year for micros as an industry.

“We constantly reiterate that the TRS-80 is a **personal** system, basically designed for small business, institutional and education use. And to remind the press that it is **not** a ‘home’ computer, a category which appears, to date, to imply fun, games and a lot of

“...the industry must also focus on the establishment of an effective large diameter pipeline in 1979.”

Richard O'Melveny, Hamilton-Avnet

color, plus the need for attachment to a television receiver. Radio Shack did not have a 'home entry in 1978, but it has several under consideration for 1979.

“There is no question about the impact of Radio Shack's system on the thinking of business and academic people. The TRS-80 in particular, because of the magnitude of its promotion, made untold thousands of professional people aware of the availability of low-cost computerization of even the lowliest of their needs. This shed a new light on the computer business, and expedited the employment of 'small' computers by a factor of many years. You might say our gift to the industry, aside from the marketing of a reliable product, was a squaring of awareness.

“Radio Shack's experience, based now on over 18 months of production, sales and service, is that microcomputers are a far cry from calculators and TV games — two product categories whose fall from grace in terms of price stability and profit potential has many financial analysts fearsome of a similar fate for micros in 1979. The companies that succeed beyond 1979 will have to be solid financially, technically and morally. Morally? Yes — the sale of a microcomputer implies a never-ending desire and ability to create software, peripheral and maintenance programs to keep the product in use and up to date. Radio Shack understands the obligation, and appreciates its rare good fortune in being able to transcend the 'consumer electronics' maker/buyer relationship that historically meant: something sold was something gone from the store. That may be the case for 'home' computers, but it is not and **never will** be true for expandable business systems.”

“Adequate distribution channels will become a prime factor in the success of manufacturer marketing plans during 1979. I believe the two basic marketing plans that will evolve are **complete control of the channel** vs. **effective use of independent business entrepreneurs**.

“1979 will see Digital Equipment Corporation, IBM and Texas Instruments make the decision on controlling the complete product distribution channel like Tandy. They already are testing their own retail stores. The industry feed-back indicates positive results and they will expand the plan. However, it remains to be seen how effectively these manufacturers handle the logistics of moving product and expanding the number of retail outlets to equal the Tandy operation.

“The new breed of personal computer manufacturers are not waiting for market tests. They are aggressively using the large number of independent retail stores that exist now. However, there is again the question about their ability to meet the logistics of

Lewis F. Kornfeld



*Richard O'Melveny
Vice President
Computer Product Marketing
Hamilton-Avnet Electronics
PO Box 2647
Culver City, CA 90230*





“Just as we saw the first signs of a shakeout among manufacturers in 1978, so did we also see a marked shift within the dealer community. The

Richard O'Melveny

distribution and support their product in the field. The retailers must concentrate on expanding the market through selling/applications and not trying to fill this gap.

“The industry is now focused on furnishing proper software and service support. It has recognized that hardware leadership is not what the new customer looks for. The businessman wants ongoing operational results.

“However, I feel that the industry must also focus on the establishment of an effective large diameter pipeline in 1979. I believe that the solution will be in the form of a two step distribution channel. Step one will be a master distributor feeding the retail stores which are step two.”

*Willaim H. Millard
President
IMSAI Manufacturing Corp.
14860 Wicks Blvd.
San Leandro, CA 94577*

“IMSAI's point of view about economic and manufacturing forces affecting the industry is best expressed in IMSAI's existing product line. At one end of the line we have the component stereo approach to computer systems, where each element in the system is a separate box. At the other end, we have the VDP-4X line and the VDP-80 line, which feature completely integrated units.

“In between those two extremes, IMSAI makes available a variety of products that allow each user to make specialized configurations, and to design the perfect match between what the customer needs and what's available. And the modularity gives this to him without penalty—it doesn't cost any more to configure a specialized system than it does to buy an integrated unit.

“Your question was, ‘What economic forces are shaping the computer industry today?’ The answer is, ‘Computers themselves.’ Computers have created an environment, in all industries, where the company with automated order control and automated inventory control has the competitive edge. Given the high costs of labor and the relative speed with which computers perform, the only way the guy on the corner, ABC Parts, can possibly compete with that outlet for Allah Industries Conglomerated is to automate, via a small affordable unit.

“I believe the industry will see ever more efficient distribution systems for computers. The computer store is here to stay. I expect computer store business to evolve into something like automobile dealerships. The computer dealer will be trained and financed and organized to handle full service on the local level—repairs, warranty service, showroom for the latest models—who knows, maybe there will even be a ‘used’ market.

“The industry will be profoundly affected, as it always has been, by breakthroughs in the amount and cost of integration on a ship. The cost of computers will decrease. After a certain point, manufacturers may hold the price and not decrease it any more, but they will continue to deliver ever more functions for the same costs.

coming year will intensify the trend toward firms capable of producing commercial grade small business systems. . .”

Ryal R. Poppa, Pertec Computer Corp.

“We are seeing the beginning of maturity in the semi-conductor business, and we expect this to lead to a higher level of reliability. Innovators will be eliminating the high failure units from computer design, such as electro-mechanical devices. Given less expensive components, we will see greater “upline-availability;” for example, multiple circuits will reinforce failsafe systems and all but eliminate the panic service calls.

“The ‘economic and manufacturing forces’ are hard at work within the information processing industry creating reliable computing sources well within reach of every business man and individual who desires to tap that resource for fun, knowledge or profit or to better their life styles.”

“1979 will be an important year for computer dealers as economic, technological and competitive forces alter the small business systems marketplace. For the dealer with the all-important combination of correct product mix, management and marketing skills, it will be a year of tremendous opportunity. However, those without any of these ingredients will probably find the coming year tough.”

“Pressures caused by a widely forecasted slow-down in the nation’s economic growth rate will provide a powerful new sales appeal that more astute marketers among the dealer community will use to their selling advantage. Those capable of selling the benefits of computers as tools to help owners operate their business with better controls will be able to overcome sales resistance created as a consequence of reduced economic activity. After all, those who understand computer systems marketing know that computerization helps control costs and increases efficiency.

“Additionally, dealers whose own businesses are in order should have little trouble adapting to a slightly tighter market for their products. They, of course, will feel the same pressure their customers do to keep tighter control over daily operations, manage their capital and maintain finer-tuned inventory levels.

“Those of us on the manufacturing side will strive to accelerate product introductions, many of them based on technological changes and advancements in hardware and software design. A continuation of the improving price/performance ratio found in today’s small business systems will definitely give those carrying the newer product lines a distinct advantage over dealers committed to older or less reliable computers.

“Just as we saw the first signs of a shake-out among manufacturers in 1978, so too did we also see a marked shift within the dealer community. The coming year will intensify the trend toward firms capable of producing commercial-grade small business systems and will also prove that it takes strong measures of business and marketing skills to successfully compete in this exciting new field within the computer industry.”

*Ryal R. Poppa
President, Chairman and CEO
Pertec Computer Corp.
Los Angeles, CA 90009*





"Price reductions will continue, paralleling the calculator industry."

Morris Samit, Summagraphics Corp.

*Thomas Regan
Vice President, Marketing
Computer Data
Systems, Inc.
5460 Fairmont Dr.
Wilmington, DE 19808*

"I feel that it is just a matter of time before the computer industry skyrockets. At the present time, there is an under abundance of software available to the small businessman with a package price that he can afford.

"Our goal at CDS is to provide that package for under \$10,000. Included in our package is a computer system, a high speed printer and business software for all applications.

"One important issue is for the dealer to be able to show the small businessman how his system can save him both time and money. It handles his payroll, receivables, payables, inventory—virtually all aspects of his accounting system.

"But, I feel that \$10,000 and under is the key figure. For anything over that is out of the small businessman's reach.

"It is difficult to forecast future prices of the computer systems. There are other machines which are also essential to maintain a small business. The calculator, for example, was purchased in huge quantities in a short period of time, therefore causing significant price decreases. However, the computer industry is still untouched in many areas. It is up to our dealers to familiarize businessmen with computer systems and how they will enable it to improve their business.

"As manufacturers and dealers work together to make this a fast growing industry, the prices most likely will not change drastically. Because of the inflationary trend of the economic situation in our country, the prices will not go up, but simply stabilize."

*Morris L. Samit
Vice President, Marketing
Summagraphics Corp.
35 Brentwood Ave.
Fairfield, CT 06430*

"Summagraphics, now in our seventh year of operation, anticipated an increasing need for peripherals to both continue and support the growth of the industry. Our planning has been reinforced by the increased use of floppy disks, printers, alphanumeric displays, color displays, plotters and, of particular interest to Summagraphics, data tablets and digitizers.

"The above prompted us to develop the BIT PAD. We felt that a data tablet for graphic, data entry and personal applications would be of interest. The increased emphasis on graphics, not only in industrial or computer aided design applications, but by the business community for the preparation of a charts, graphs, histograms, trend analyses, etc., will lead to an increased use of the data tablet as an input device. Data entry requiring flexible, variable, multifunction keyboards is a typical application area.

"There will be increased emphasis by both the microcomputer and peripheral manufacturers on compatibility of hardware, software and interfacing. The microcomputer manufacturers will have to offer systems that include various peripherals. These manufac-

“...\$10,000 and under is the key figure.”

Thomas Regan, Computer Data Systems

turers will have to execute OEM agreements with the peripheral suppliers. Thus, manufacturers will be assembling complete systems satisfying the turnkey need of the purchaser. Computer stores will occupy an important niche in combining equipment from various manufacturers into complete, dedicated, special purpose systems.

“As the market grows, success will go to those companies able to understand the marketing of a consumer product as opposed to a technical computer product.

“Marketing will occupy an important position in the industry, both in promoting and educating potential users. The marketing function will explore the opportunities available for providing useful systems to the millions of small businesses in the United States as well as entertaining pastimes to the millions of households. Reliability, service and customer support will be important ingredients necessary to the success of individual companies.

“The industry will segment into those companies selling in large volume, a personal computer or appliance, and those selling in a smaller volume, a higher ticket dedicated system. Success in the former will go to those able to produce along the high-volume, low-cost curve offering products that are easy to use. Success in the latter will go to those companies able to find and carve their particular niche in some application area.

“In the next year, I see peripheral manufacturing companies such as Summagraphics, entering into large OEM contracts with personal computer manufacturers. The development of full line companies will provide the needed and necessary stability to the industry.

“Price will achieve even greater emphasis as competition increases. Price reductions will continue, paralleling the calculator industry. Therefore, success will be predicated on rapidly achieving a high volume and appropriate cost reductions. Attaining such a position will lead to significant market share and enhance profitability. The successful company, whether microcomputer manufacturer or peripheral manufacturer will have to study both product and market in greater detail, fixing on an appropriate price with which to position the product.”

“In 1979, we see a substantial upswing in personal computer uses and a continuing boom in small business computers, with this sector enjoying the largest growth rate in the industry. Small companies purchasing their first computer will remain the ideal target customers for the dealer. Dealers should begin now to position themselves as ‘total suppliers’ of hardware, software and services to

*John. J. Healion
Vice President
Computer & Business
Products
BASF Systems
Bedford, MA*



John J. Healion

offset competition from retail stores and possibly hi-fi stores, who will begin trying to carve out a niche for themselves in this market in the coming year. Like the stereo system buyer who returns to the point of purchase time after time for advice on supplies and better components, the first-time computer user should come to depend on the computer dealer for expertise, support and quality supplies.

"As to products, we predict a great increase in sales of the 5¼" floppy disk media. 1979's more sophisticated users will turn to this type of storage because of its faster access time, lower cost per storage byte and greater security."

Charity Cheiky
President
Ohio Scientific, Inc.
Aurora, Ohio

"In product, price, and promotion, the year of 1979 promises to be an exciting time for the microcomputer industry. At Ohio Scientific, we are planning innovations in our marketing and merchandising that will remove the mystery of selling personal computers at the consumer level. By being a full line manufacturer, we can accommodate the dealer who works with both consumers and small business."

"To meet the 1979 challenge in small personal computer retailing, we are introducing a selection of personal computers in three retailer starter packages — with computers and accessories priced to attract all levels of the consumer market."

"These starter packages are supported by effective promotions, sales training tapes, sales aids, point-of-sale displays, and literature designed to show retail sales people how easy it is to operate our computers while teaching them to sell our products."

"The key to selling Ohio Scientific personal computers in 1979 is found in our large library of cassette and diskette personal applications software that has all the operating instructions built right into the programs. This enables consumers to realize the capabilities of their personal computers instantly without learning to program."

"Powerful ready-to-go software programs are available for our business computers, too. For example, our OS-DMS program permits the user to store vast amounts of information and retrieve it quickly in an organized fashion with no computer training. Our OS-AMCAP program is a complete small business accounting system, and our OS-WP-2 program offers business a complete word processor system with a minimum of training."

"The trend in 1979 indicates that for the first time, software is really and readily available for both personal and business applications. This simplifies the use of the computer to a point where the user can put his machine to work practically from the moment of purchase. With the low cost of the hardware, and the availability of software, we can now cater to a much larger market than we dreamed of three short years ago."



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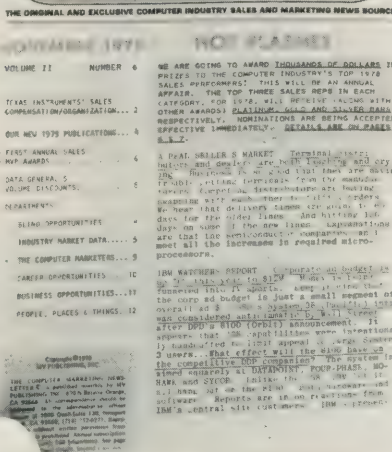
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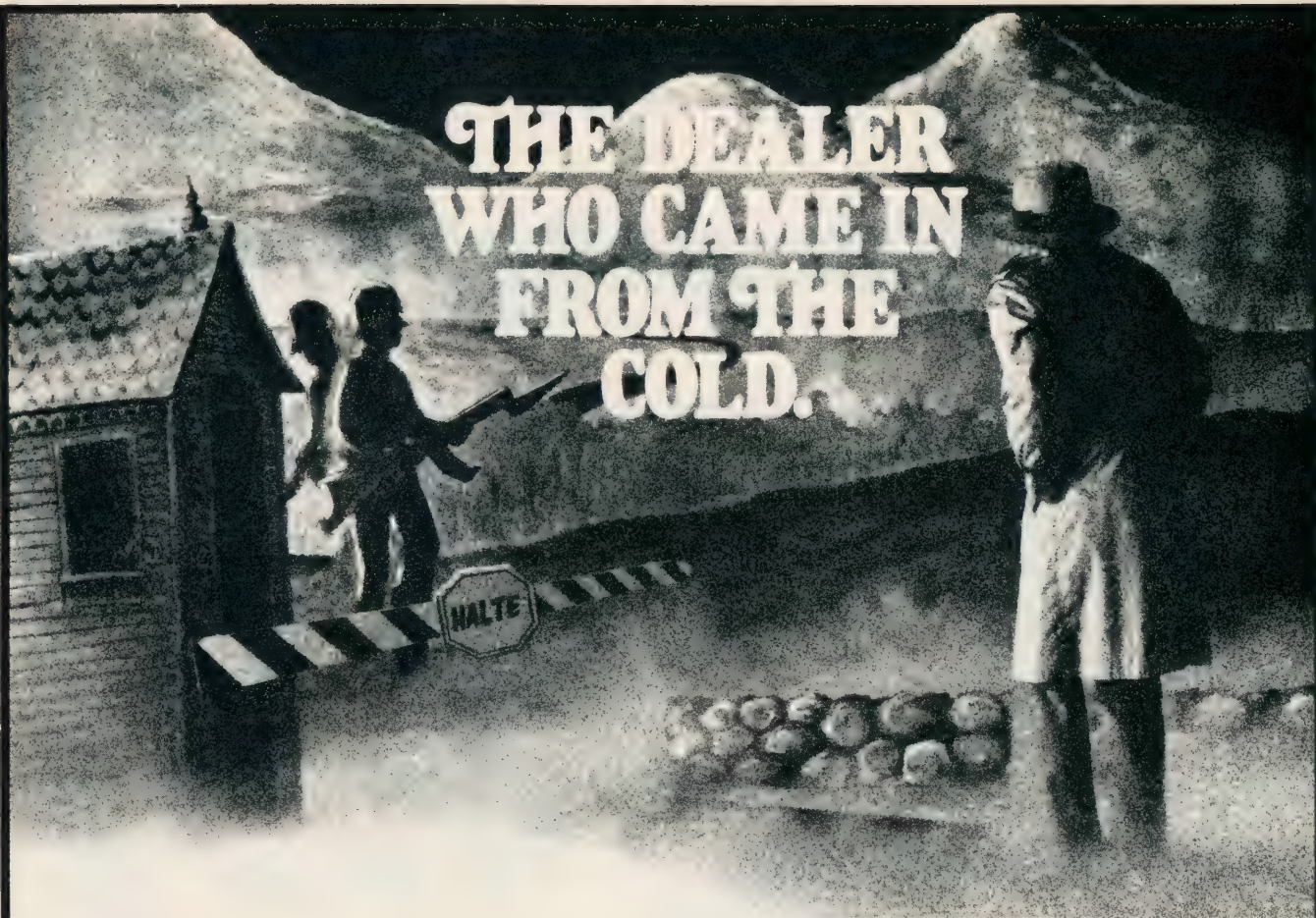
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THE DEALER WHO CAME IN FROM THE COLD.



An unnerving stillness had settled around the dealer. A pack of ledger books grew leaden in his hands while his eyes drooped with fatigue. Night after night of thankless work had caught the dealer with his books out of kilter, the many commitments he'd said yes to had finally started closing in. He had been warned about overextending himself. About the endless delays facing him. About hopeless credit arrangements.

The dealer elected to come in from the cold. He dialed the 315 area code in the heart of New York State. 315/446-1285. CSD... Computer Systems Distributors... was on the other end of the line. (CSD! They would offer the help he needed, was the musing in his head. CSD served the East Coast like no other microcomputer distributor. They were fast-growing and fast-paced. Like the dealer himself!)

The people at CSD, he heard from the underground, were experienced and sensitive to the needs of his store's operation. Microcomputer retailers

from Boston to the shores of the Potomac had used CSD's very special services. Low prices were only a part of the "better deal for the dealer" that he had heard so much about.

It seems that CSD could buy in quantities large enough to significantly lower single unit prices to the dealer. And, since CSD bought in such huge volume, the dealer was virtually guaranteed almost immediate shipment of his orders.

The two deadliest pitfalls the microcomputer dealer faces, CSD conquers! The pricing pitfall was skirted, and the delivery cycle was shortened because of huge inventories in CSD's warehouse.

The voice on the other end of the phone reassured him that CSD would solve his problems, too. The words warmed his very soul. The dealer had come in from the cold and found his liaison, CSD, to be secure and trustworthy, quick on delivery, and priced to help him profit.

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West Coast Marketletter

by Sheila Clarke
West Coast Editor

1979 may well prove to be the year we'll remember that gave shape and direction to the diverse retail computer industry. Many "experts" in the field express opposing predictions: "Hobbyist computing will fade and die;" "The only way to sell a system is through franchised operations;" "The only way to sell a system is off the shelf of huge retailers like Sears';" "The only way to sell a system is direct to end-users" . . . and on and on.

Could all be correct? We think so. Small computers will become an everyday part of our lives to the extent that they may be variously configured, and sold via many, many avenues. Small independents are being acquired in part or whole by large corporations. COMPAL, for instance, has sold a 25% equity position to XEROX. Large corporations are demonstrating the conviction that small computing is here to stay. Take Tandy, not satisfied with using Radio Shack outlets alone, which plans to open some 50 sales and service computer centers.

Large manufacturers like National Semiconductor have talked of setting up small-business dealer networks, and Texas Instruments their own network of showrooms. It would seem that if dealers keep one ear to the marketing pipeline and one eye on profits, they cannot fail. Recession, inflation and all the economic scare talk won't keep the small computer industry from expanding and infiltrating every aspect of business, both large and small.

Warranty

Whether express or implied, both are enforceable. Promises made about a product in sales literature can be enforced in a court of law. In a product dispute tested in the Supreme Court of South Dakota, a written disclaimer was not accepted for discounting sales claims made in the product literature, and the seller was held liable for literature claims. It is not necessary that formal words such as "warrant" or "guarantee" be used when making product claims. If the buyer agrees to purchased based

on those claims, the seller can be held to them.

New federal rules governing warranties are detailed in a booklet called "Summary of Magnuson-Moss Warranty Act and Federal Trade Commission Rules." It can be obtained by sending \$2 to the National Retail Merchants Association, 100 West 31st St., New York, NY 10001.

Microelectronics in England

A new company is forming in London, backed by the government's National Enterprise Board, to design and produce microprocessors. The goal is to advance beyond mpu capabilities produced by the US and Japan. The campaign is on to recruit veterans of "Silicon Valley" . . . perhaps they'll call the new venture's home "Silicon Island." Critics warn against the move, saying the cost is too high, and the effort too late.

Cost of Marketing Declines

According to the laboratory of Advertising Performance in New York, you are now spending a mere \$12.90 per \$100 in sales . . . ten years ago that \$100 sales would have cost you \$14.30. Marketing expense include direct sales, warehousing and delivery, and advertising. Here's how the \$12.90 is divided:

Direct selling programs:	\$6.30
Storage and delivery:	2.10
Advertising:	1.60
Misc. Marketing:	2.90

90% of all industrial companies surveyed gave top priority to ad space in business and industrial publications. More than 80% use catalogs, direct mail, and buyers' guide advertising at trade shows. Sales promotion through public relations was budgeted by 70%, and half designated part of their ad budget to such PR items as in-house publications, community responsibility and charitable contributions.

Smaller businesses spend a higher percentage of sales dollars on marketing . . . in the \$1,000,000 and under bracket, almost 17% of sales money is devoted to marketing. ●

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Bantam Terminal

Reduce freight costs.

A light 28 lb. unit that ships UPS.

Rugged, compact, and quiet. 12" screen, 24x80 field. Upper/lower case with true descenders.

Embedded 10 key numeric cluster. Reverse video. Sugg. retail \$996.

DATAPRODUCTS

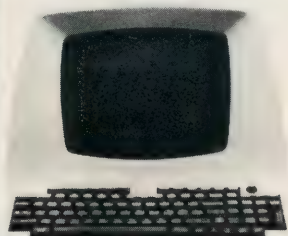
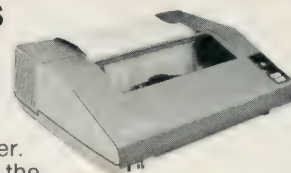
M-200 Matrix

Printer

Twice the speed.

340 cps print speed, bi-directional matrix printer.

Over twice the speed of the TI 810, better margins. Diagnostic self test, 300 million char. life print head. Condensed print option. RS232. Sugg. retail \$3320.



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Ballistic 300 Matrix Printer

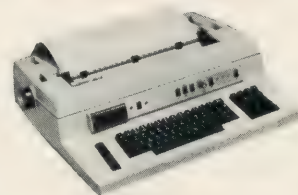
Built to last.

180 cps bi-directional printer using LSI's patented super-reliable print head. 136 columns, 9x7 matrix. Adjustable vert. & horiz. forms control. Expanded print, RS232 std. Sugg. retail \$2095.

B-300 Line Printer

Upgrade your customers.

300 lpm band printer, top of the line for small business systems. 132 columns, 3" to 15" form width. Self test & diagnostic display for easy servicing. RS232. Sugg. retail, including FLC, pedestal, paper tray, \$5940.



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Sprint 5 Daisy-wheel Printer

For use with Autoscribe

RO (45cps) and KSR (45 or 55cps) models. High speed & print quality for word processing work. 132 columns, 43 commands, over 50 type styles. Plotting, graphs, self-testing. Sugg. retail from \$3095.

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Circle 116 on Reader Service Card

How to Buy and Use Minicomputers and Microcomputers, by William Barden, Jr.; Howard W. Sams & Co., Inc., 4300 West 62nd St., Indianapolis, IN 46206. 240 pages, softbound. List Price: \$9.95.

This illustrated book concentrates on the uses of the smaller members of the computer family. It explains the basics of both minis and micros, their hardware and software, peripheral devices available and the various programming languages and techniques. Selecting and buying a system, and programming, are covered. The last two chapters provide descriptions of currently available minis and micros.

Circle 117 on Reader Service Card

Your Own Computer, by Mitchell Waite and Michael Pardee; Howard Sams & Co., Inc., 4300 West 62nd St., Indianapolis, IN 46206. 80 pages, softbound. List price: \$1.95.

This intro book is intended for the beginning computer hobbyist, and includes an explanation of what a personal computer is, how these devices are being used today and programming. Input/output hardware, microprocessors, memories, interfaces and other arcane items are explained in simple terms. Two appendices give a glossary of personal computer terms and abbreviations.

Circle 118 on Reader Service Card

The 6800 Microprocessor: A Self-Study Course with Applications, by Lance A. Leventhal; Hayden Book Company, Inc., 50 Essex St., Rochelle Park, NJ 07662. 112 pages, softback. List price: \$5.95.

A simple introduction to programming the 6800 microprocessor, this book contains, 15 laboratory exercises that emphasize the use of the microprocessor as a controller which responds to inputs and prepares suitable outputs. Although coverage is confined to simple control applications of microcomputers, it also points out how microcomputers can be used in communications, data acquisition, business data processing and other applications. Some of the laboratory exercises cover complement pro-

gram, LED displays, using the keyboard for data, flowcharting, common errors, data arrays, debugging programs, subroutines and interrupts.

Circle 119 on Reader Service Card

Understanding Solid State Electronics, Third Edition; Texas Instruments' Learning Center Library, PO Box 3640, M.S. 84, Dallas, TX 75285. 270 pages, softback. List price: \$3.95.

The Third Edition of TI's solid state book covers today's semiconductor technologies and reviews earlier electronic devices and integrated circuits to provide any person with a basic understanding of solid state electronics. Written in plain, non-technical language, USSE is a self-teaching textbook complete with quizzes and glossaries. New additions to this edition include comprehensive discussions on MOS and largescale integrated circuits; how a MOS transistor works, how it compares to a bipolar transistor and how MOS transistors have made microprocessors and microcomputers possible.

Circle 120 on Reader Service Card

BRS-6, NCR Data Communications Concepts, Titus, Titus, Larsen and Rony, eds.; E&L Instruments, Inc., 61 First St., Derby, CT 06418. 220 pages, softback. List price: \$6.95.

This new addition to E&L's Bugbook series, NCR Data Communication Concepts, is an introduction to the principles, characteristics and testing of data transmission circuits. BRS-6 concentrates on the properties and limitations of real transmission lines, and explains the corrective techniques used to optimize data transmission performance. The book discusses filters, equalizers and other corrective devices from the users' point of view, and explains the use and testing of modems and other terminal equipment. ASCII codes and detailed guides to interpretation of communications circuit specifications are presented. The text is designed for classroom use and home study. Review questions stressing key concepts are included.

Circle 121 on Reader Service Card

Consumer Electronics

Computers Shrink to Pocket Size

Handheld language translators also work as calculators, storage banks

by Kathleen Lander,
Consumer Electronics Editor



Craig's language translator.

Lexicon's portable language translator, with power module and language capsules.

Handheld language translators, the newest form of computers designed for the average consumer, highlight a bumper crop of introductions and expanded capabilities that will appear on the market during 1979. Two companies, Craig and Lexicon, are bringing out the pocket size language translators. New home computers are coming from Atari, Alpex, Interact and Teal, all with models shown at the January Consumer Electronics Show in Las Vegas. At latest count, about 50 firms are in various stages of participation in the home computer competition while looking for the eventual market to be heavily influenced by the planned



Atari 800 personal business computer.



products from Texas Instruments and Hewlett-Packard.

Despite their small size, about that of a "standard" pocket calculator, the language translators are computers with data storage and random access. Both versions are designed for utmost simplicity of operation. Spelling out a question or phrase on the keyboard brings an instant transla-

tion on the display in a choice of several languages. The Craig unit also has built in metric conversion and functions as a calculator. Additional applications are to be introduced later for both brands.

Craig calls its language translator and information center the M-100. Plug-in memory capsules store a vocabulary of about 1500 words and 50 frequently used phrases for each language, and the unit can handle three capsules at a time. The Digitron display can show up to 16 characters at a time, and words rotate to the left if the translation is longer than the width of the display. Languages initially available are English (which comes with the M-100, Spanish, French, Italian, German and Japanese. Translation can be between any combination of languages.

"The M-100 brings a whole new generation of personal electronics. Language is only the beginning, although it will be a key element for a long time," says Peter Behrendt, Craig president. "There is no limit to what we can program if there is interest—bar or dessert recipes, calorie equivalents of foods or of energy expended in various activities. The M-100 gives people continuous interaction and communication with the machine."

Behrendt, who anticipates sales of more than 100,000 units this year, does not expect major price erosion for the product, just "some drop over the next two years, maybe reaching 25 percent." The M-100 is to retail at about \$200 with memory capsules priced at \$25 each. Sales estimates are for 2½ capsules, on the average, with the initial purchase at about 6 or 8 total for each unit.

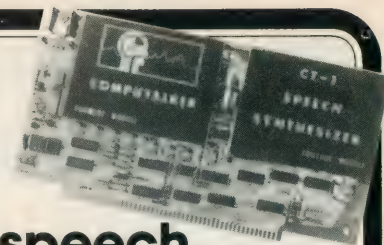
Beginning this quarter, distribution of the M-100 will be through specialty and department stores, mass merchandisers and other outlets.

The Lexicon LK-3000, available now from the Miami-based Lexicon, Inc., operates with pre-programmed modules that will translate English into Spanish, French, Italian, German or Portuguese and vice versa. The price is \$225 for each unit, which comes with one module, an adaptor/battery charger and a carrying case that will accommodate two additional modules. Each additional module has a price of \$65.

The LK-3000 has a 1500 word vocabulary for each language and displays translations on a 16-character/digit LED display. It uses a Mostek

continued on next page

Give your computer its freedom of speech



Give your computer its "Freedom of Speech" with the COMPUTALKER CT-1 Speech Synthesizer. Under software control, sounds are defined in real time. These parameters, transmitted from your computer at high speed, enables the Model CT-1 to produce highly intelligible and quite natural sounding speech. In fact, you can even give your computer its own character and dialect.

Only COMPUTALKER gives you a choice of two different software-controlled sounds... CTEDIT Parameter Editor for natural sounding speech (standard) or the optional easy to program CSR1 Synthesis-by-rule program for the "computer" sound.

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Software is available on CPM 8", North Star 5 1/4", Micropolis, CUTS, CUTS for SOL, Tarbell, MITS ACR, Paper Tape

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(01589) 450 pp., \$12.95, paper

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Circle 123 on Reader Service Card

Computers Shrink

chip with capacity for storing 65,536 bits of information. The vocabulary of all of the Lexicon modules is supplied by the Translation and English Language Center at the Carnegie Mellon University, Pittsburgh, Pennsylvania.

Shrinkage in size of the computer is illustrated by the measurements of the Lexicon translator: 3-3/4" deep by 6-3/20" wide by 1-1/2" high. Weight is 11-1/2 ounces with one module, and the adaptor/charger weighs an additional 7-1/2 ounces.

Lexicon plans other specialized modules, all compatible with the basic chassis, in several types of problems solving or data storage. Modules are being designed for metric conversion, foreign currency exchange, a multi-language Thesaurus, and for multi-lingual "person-to-person" translation.

Anastasios Kyriakides, Lexicon president, sees the greatest potential of the product in the education area because the modular concept can be adapted to almost any discipline or subject.

Atari plans mid-year delivery on two new personal computer systems, the 400, designed for people with no prior computer experience, and the 800, planned for experience users with sophisticated needs. Both are user programmable in BASIC, and other program languages are to be available later on preprogrammed solid state cartridges.

Billing the new series as "affordable home computers," Atari, a division of Warner Communications, indicates the 400 will be priced at about \$500 and the 800 at \$800 to \$1000. A software library and peripherals including a printer also will be available.

Features of the Atari-400 general purpose model are 8K RAM and 8K ROM, which can be expanded to 16K with user-installed solid state program cartridges, a 57-key keyboard that has graphics symbols and full screen editing functions, graphics in 16 colors and eight luminance levels, four audio channels and four controller input jacks for up to four game controllers. There

are special commands for graphics, colors, sounds and games and a serial input/output port for peripheral components.

Accessories to be offered for the Atari-400 are a cassette tape drive, automatic volume and tone control, and audio and digital information tracks. The optional 2-channel tape drive has a 3-digit tape counter, pushbutton controls, and plays cassettes on both sides. Data storage is 400,000 bytes per 120-minute cassette. The digital track handles more than 600 bits per second.

The software package is designed for applications in education, entertainment and business and household management. The computer asked questions and tells when answers are correct for active user participation. The educational library includes more than 70 hours of instruction in 20 subjects.

Business and household management programs can be purchased on cassette tapes or entered by the user through the alphanumeric keyboard. The game library has thinking and action games with chess, backgammon, business simulations, and driving among the titles. Atari states that the system can be programmed to play "any videogame ever invented."

The Atari-800 performs all of the tasks of the Atari-400 but has more capabilities and peripherals. It's being billed as a "timeless" computer that is designed to change as users' needs change. The 800's console is shipped with the cassette recorder and Atari BASIC program cartridge, 4-color documentation and an instructional tape that explains the system by voice and by screen illustration.

Atari considers the 800 model equally functional at home or in the office, pointing out that it is expandable to keep up with the needs of most small businessmen or of large business where the central computer is overloaded. The peripherals can be used in any combination called for by the intended application. New products

continued on page 49

Look out world, here we come . . .

HAYDEN COMPUTER PROGRAM Tapes

The world of personal computing has seen nothing yet, 'til it sees Hayden Computer Program Tapes!

Hayden is stealing the show with ready-to-run, complete programs on cassettes, compatible with these bestselling machines: PET, KIM, TRS-80 Level I, TRS-80 Level II, Apple II, and Exidy's Sorcerer.

The Tapes' ease-of-use is topped only by their quality. They are expertly manufactured, handsomely packaged, and come with a warranty against manufacturer's defects. Full documentation is available with each tape or in separate guides.

Right now, these tapes are available:

- **SARGON: A Computer Chess Program** (the winner of the West Coast Computer Faire Chess Tournament!)
- **Game Playing with BASIC** (27 programs on 3 cassettes)
- **How to Build a Computer-Controlled Robot** (the 5 control programs for a computerized robot)
- **The First Book of KIM** (28 recreational and 13 utility programs on 3 cassettes for the KIM-1)

These are but the first in a long line of computer program tapes that will become available in the coming months.

Hayden's commitment to publishing these tapes is topped only by Hayden's commitment to you, the computer dealer!

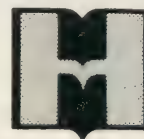
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- dealer information binder — updated every month with new tapes!
- demonstration tapes that you can plug in and let run all day.

All our efforts are geared to one thing — to bringing customers to your door!

So, don't delay in getting in on the biggest thing to happen in the world of computing since Pascal's calculating machine!

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Newslines

Tandy Dead at 60

Charles David Tandy, chairman of the board, president and chief executive officer of Tandy Corporation, parent firm of the Radio Shack and Radio Shack Computer Center chains, died in his sleep of a heart attack November 4.

Tandy took a small, family leather business in 1947 and developed it into an international corporation with annual sales which exceeded one billion dollars in 1978. In 1963, Tandy acquired the Radio Shack chain of nine stores. Radio Shack lists over 6000 outlets today.

Triple-Micro Unit Wins Award of Merit

Ohio Scientific's C3-B microcomputer system was presented with an Award of Merit as an outstanding example of utilization of microprocessors in the Office Equipment category.

Instead of the usual one microprocessor, the C3-B uses the 6502A, 6800 and the Z80. This feature, combined with the unit's switchable clock, permits the user to take advantage of the different speeds and programming versatility offered by each microprocessor type.

Digital Joins Retailers

Digital Equipment Corporation has joined the Computer Retailers' Association, an organization made up of storefront sellers of computer products. According to the Association Notes, the newsletter of the group, the Maynard, Massachusetts based mini computer manufacturer joined as of September 15, 1978.

Computer Dealer recently visited Digital's "storefront" and reported on their operation in the September issue. During the course of interviewing operations personnel, the Retailers' Association was mentioned.

The Computer Retailers' Association is headquartered at 634 S. Central Expressway, 40 Richardson, Texas.

Microsoft Markets to Japan

Microsoft's system software will be marketed to Japanese OEM's, dealers and end users throughout Japan by an exclusive representative, ASCII Microsoft, located in Tokyo. According to Bill Gates, president of Microsoft, completion of contracts with Japan's Ai Electronics, Sord and Matsushita Communications Industries preceded Microsoft's decision to acquire a far eastern representative. Gates expects the Japanese electronics industry to play a "significant role" in the developing personal computer and small business system markets.

360 Glut

CMI Corporation, marketers of third-party IBM equipment, report that price of 360's on the market is at approximately 10% of IBM list.

What's This Red Light On My Computer?

It had to happen sooner or later. An associate tells us of a program he's written which leeringly recites limericks while depicting various X-rated goings-on in high resolution, **animated** graphics.

The program was written on a 32K Exidy which has—we shudder to think—user programmable characters. Unfortunately for dealers who'd like to carry such a line of software, we understand that federal law prohibits the transmission, by mail or even phone lines, of such—pardon us—raw data.

ITT, Qume to Merge

Qume Corporation, manufacturers of printers and other peripheral equipment, will become part of the ITT conglomerate under the terms of an agreement-in-principal reached September 25.

Under terms of the agreement, Qume will be merged into ITT and based on shares currently outstanding, approximately 4.7 million shares of ITT stock will be issued in exchange for the

Qume shares on a one-for-one basis. Qume based on Hayward, California, will continue to operate under the Qume name and with current management.

Recently, ITT and Apple computer reached an agreement by which the apple unit would be marketed by ITT in Europe under an Apple/ITT logo.

Xerox Invests in West Coast Dealer

COMPAL, formerly Computer Power and Light of Studio City California, announced recently that 25% of its outstanding stock had been placed with Xerox Corporation.

COMPAL both manufactures and sells through its own outlets microcomputer systems for word and data processing which sell for under \$10,000. COMPAL was the subject of a Computer Dealer cover story in June of 1978.

Production Bubbles

First production bubble domain memory devices and subsystems for volume markets have been introduced by Rockwell International.

"This move represents a major entry into another key segment of the total marketplace for Rockwell's microelectronics business," stated Malcolm B. Northrup, VP of Microelectronics Devices. Three levels of bubble memory products were introduced:

- basic 256K bit bubble memory device
- one megabit linear bubble memory module and the programmable control module—both based on the 256K bit device.
- a ¼ megabyte development system composed of two linear modules and one control module and a Rockwell System 65 microcomputer development system. ●

Computer Dealer — 1979 Editorial Schedule

Issue	Emphasis	Editorial Closing	Advertising Closing
Jan./Feb.	Business Forecast Issue	Jan. 2, 1979	Jan. 5, 1979
March	Dealers + Insurance	Feb. 1, 1979	Feb. 9, 1979
April	Sales and Training Aids	Mar. 1, 1979	Mar. 13, 1979
May	NCC Preview Tour	April 2, 1979	April 13, 1979
June	NCC Show Coverage	May 1, 1979	May 11, 1979
July/Aug.	Business Systems	June 1, 1979	June 15, 1979
September	Consumer Computer Roundup	July 20, 1979	Aug. 10, 1979
October	End of Year Selling	Sept. 3, 1979	Sept. 7, 1979
Nov./Dec.	Regular Issue	Oct. 26, 1979	Nov. 9, 1979

On the Market

CARE AND FEEDING OF DISKS

free literature

Information on the care and compatibility of floppy and mini disks is available from BASF Systems. It is a four-page document which describes the proper way to handle media without damaging the valuable information recorded on it. Also available is the BASF FlexyDisk System Compatibility Chart, which lists the compatible BASF disk for the systems and drives of all major manufacturers. **BASF Systems, Computer and Business Products Dept., Crosby Dr., Bedford, MA 01730.**

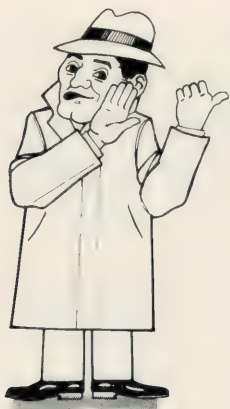
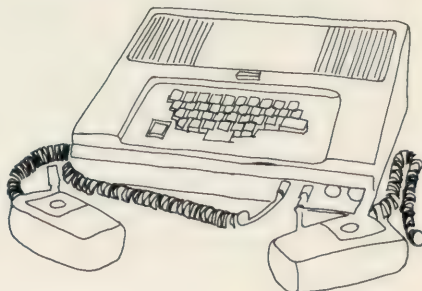
Circle 125 on Reader Service Card



DESKTOP UNIT built in peripherals

In a single package, this computer incorporates display, memory and hard-copy peripherals. The CompuCorp 625 Mark II Desk Top computer is a Z80 based unit operating in extended BASIC with up to 630K data, and are usable for both program and data storage. Contained in the unit is a 1280ch CRT display as well as a 40 column alphanumeric matrix printer, which can provide multiple copies on plain paper and variable character sizes. S-100 interface capability is provided for on the unit. Unit is also available in a 19" rackmount version. Mark II sells at \$8000, delivery 60 days, marketed through dealers. **CompuCorp., 1901 S. Bundy Dr., Los Angeles, CA 90025.**

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Call toll free, 800-523-9350



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FILE for printouts

This multipurpose file can be adapted for folders, ringbinders, manuals, computer printouts, microfilm, reference cards and a variety of other media. Each tier has metal dividers which can be used for primary indexing and a customized backstop which makes it possible to house media of several different sizes on the same tier. RotaScan's circular concept, explains the manufacturer, gives large filing capacity in small floor space. **RotaScan Retrieval Systems, 270 Greenwich Ave., Greenwich, CT 06830.**

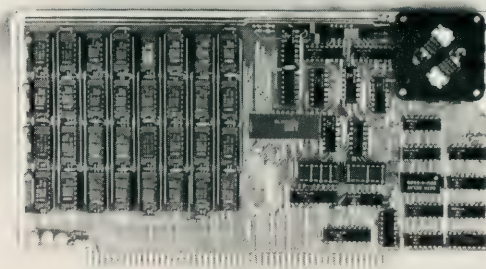
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MINIFLOPPY double density

Double density is available on a 5¼" diskette. V200 series is a single sided drive, case and power supply with S-100 controller board. The controller board controls up to three hard-sectored, double-density, double-sided disk drives. The unit operates with any Z80/8080 based system with 24K minimum of main memory. End-user price is \$699. **Vista Computer Co., Dept. P2, 2807 Oregon Ct., Torrance, CA 90503.**

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OUR LOW PRICE MEANS HIGH-VOLUME SALES FOR YOU



Small businessmen and computer hobbyists get more features and product options for their money from Central Data Corporation. And they know it.

Our nationally advertised **16K/64K RAM board** generates thousands of requests a month from consumers and dealers who want to know more about what we've got to offer. In the past, we've sold our board directly to the customer. Now, due to increasing sales and new technology our costs have been reduced, and we are able to make our RAM board available through dealerships.

What Have We Got To Offer Your Customer?

Low Price

16K	\$249	48K	\$599
32K	\$425	64K	\$775

The 16K, 32K, and 48K boards are expandable at \$185 per 16K package. Of course, these packages will also be made available through dealers.

Versatile, Convenient Board Design

Standard Features

- S-100 and Z-80 compatible
- Assembled, tested, and burned-in
- Deselectable in 2K increments
- Fully socketed memory
- Plug selectable addressing
- Dynamic board with on-board invisible refresh

We stand behind our product with a one-year guarantee on parts and labor.

Dealer Support

Through our national advertising we are encouraging customers to contact their local dealer with questions about our board. And, once you've established a dealership, our staff is available should you require technical support. **For more product and dealership information, contact:**

Central Data Corporation
P.O. Box 2530, Station A
1207 N. Hagan
Champaign, Illinois 61820
(217) 359-8010

Circle 130 on Reader Service Card

- IMSAI ● SWTPC
 - CROMEMCO
 - LEAR-SIEGLER
 - PROBLEM SOLVERS
 - RCA ● NORTH STAR
 - VERBATIM
 - ALPHA MICRO
- SYSTEMS**
... and others

We sell to dealers. Fast,
off the shelf delivery.
Give us a call.

TOLL FREE
800-523-5355

MARKETLINE Systems

2337 Philmont Ave.
Huntingdon Valley, PA 19006
215-947-6670

Circle 131 on Reader Service Card

Texas Instruments

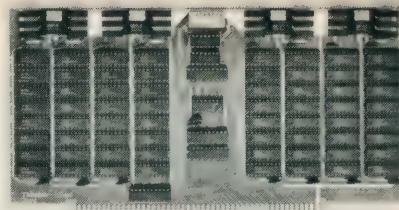
Model 770 and 771 Software

Simplified Word Processor
-\$250 with our name on the
screens or \$750 with your name
on the screens - no royalties.
Also dealerships available for
our CPA Write-Up Package,
\$8,000 initial fee and \$1,500 per
sale. Contact International Cy-
bernetics, Limited, 17117 W.
Nine Mile Rd., Suite 631, South-
field, Michigan 48075. Phone
(313) 559-5952.

International Cybernetics, Limited

17117 West Nine Mile Road, Suite 145
Southfield, Michigan 48075
(313) 559-5952

Circle 132 on Reader Service Card



S-100 STATIC RAM BOARD 32K

Utilizing National Semi or TI
4Kx1 static chips, this S-100 com-
patible memory board can be run
at 2MHz for standard 8080
systems, or 4MHz for Z80
systems. All control signals, ad-
dresses and data lines are fully
buffered. Each 16K block is in-
dependently addressable and
write protected. The board con-
tains only seven support ICs and
typical power consumption is said
to be 2.6 amps. The board has
been designed to meet the pro-
posed IEEE S-100 buss standard.
Kit price: \$649; assembled: \$699.
**Thinker Toys, 1201 Tenth St.,
Berkeley, CA 94710.**

Circle 134 on Reader Service Card

35 Years in DATA PROCESSING

The machines we learned on are in the Smithsonian,
but what we learned then still applies.

We have built and are marketing (that means de-
livering) one of the best integrated General Ledger, Ac-
counts Receivable, Accounts Payable, Payroll, and In-
ventory systems presently available. It's powerful, docu-
mented, tested, and CPA approved.

When you market our package, you get CBASIC
source code running under CP/M. It's hardware independ-
ent and was designed to be customized. We support our
dealers with WATS, sales aids, seminars, and discounts to
60%. Write or call:

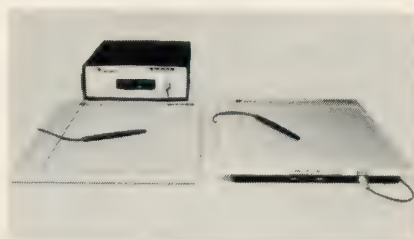


NATIONAL SOFTWARE
EXCHANGE, INC.

SUITE 113 • 1000 LAKE SAINT LOUIS BLVD.
LAKE SAINT LOUIS, MO. 63367

(314) 625-2400

Circle 133 on Reader Service Card



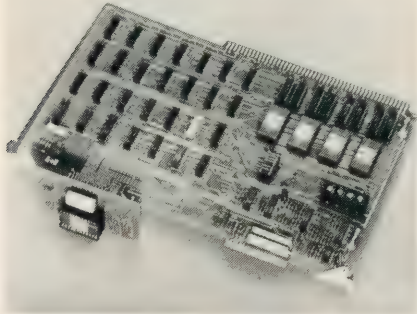
DIGITIZER one-piece

The latest addition to Sum-
magraphics's line of digitizers is a
one piece unit called the Bit Pad
One, which integrates the tablet
and the electronics in one table
top unit. The Bit Pad is easily in-
terfaced with a variety of micro-
computers via either 8-bit parallel
output, RS232 serial communica-
tions interface or IEEE-488 stan-
dard interface. The unit, with in-
terface is available immediately
and sells for \$666. **Sum-
magraphics Corp., 35 Brentwood
Ave., Fairfield, CT 06430.**

Circle 135 on Reader Service Card

TI SOFTWARE BOARD for 9900 processors

Termed a "low cost alternative" for software development for the 9900 family of TI 16-bit microprocessors, the TM990/302 software development board generates software using assembly language or TI's Power BASIC language. EPROM resident software tools on the board



include a text editor, symbolic assembler, debug package, relocating loader, EPROM programmer and EIA uplink to a TI990/4 or 990/10 mini. The board is priced at \$625 in one-piece quantities. Separate EPROM personality modules for programming various EPROM series are available at \$60 each, **Texas Instruments, Inc., PO Box 5012, Dallas, TX 75222.**

Circle 136 on Reader Service Card

FLEXIBLE DISKETTES immediate delivery

A standing inventory of all the many types used on various diskette drives is maintained for immediate shipment, states the company. Diskettes are available for equipment such as the IBM 3740, System 34, System 6, Shugart, Teletype and Memorex drives. Minimum order is 10 diskettes per box. Bulk quantities are available as well as any of the accessories such as write-enable labels, rainbow labels, jackets and storage units. Quantity and distributor accounts are also available. **TRI, 10 S. River St., Dundee, IL 60118.**

Circle 137 on Reader Service Card

TERMINALS FROM TRANSNET

OUTRIGHT PURCHASE OR FULL
OWNERSHIP UNDER OUR
24 MONTH 100% EQUITY RENTAL PLAN

	PURCHASE	*PER MO. PRICE 24 MOS.
DECwriter II	\$1,495	\$ 75
DECwriter III, KSR	2,195	112
DECwriter III, RO	1,995	102
DECprinter I	1,795	92
VT100 CRT DECscope	1,595	81
TI 745 Portable	1,875	94
TI 765 Bubble Memory	2,995	152
TI 810 RO Printer	1,895	97
TI 820 KSR Terminal	2,395	122
QUME, Ltr. Qual. KSR	3,195	163
QUME, Ltr. Qual. RO	2,795	143
ADM 3A CRT	875	45
HAZELTINE 1400 CRT	845	43
HAZELTINE 1500 CRT	1,195	67
HAZELTINE 1520 CRT	1,595	81
DataProducts 2230	7,900	395
DATAMATE Mini Floppy	1,750	89

*FULL OWNERSHIP AFTER 24 MONTHS

**12 MONTH FULL OWNERSHIP,
36 MONTH LEASE AND RENTAL
PLANS AVAILABLE ON ABOVE
AND OTHER EQUIPMENT**

**MOST EQUIPMENT AND OPTIONS
IN STOCK FOR IMMEDIATE SHIPMENT**



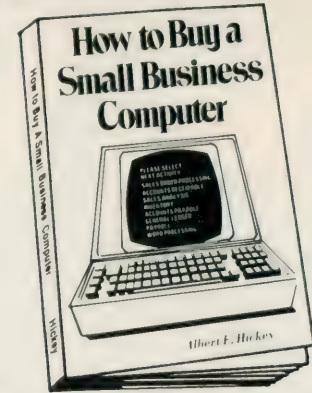
TRANSNET
CORPORATION

2005 Route 22, Union, N.J. 07083

201-688-7800

Circle 138 on Reader Service Card

"A MUCH NEEDED BOOK..."



This new book will help you get your share of the booming small business market.

Contents: Part I. Background: Data Flow in a Typical Small Business ... With or Without a Computer • A Typical Computer System: Major Components • A Sample Terminal Session: Inventory Control • Stepping Through the Other Business Applications • Another Sample Terminal Session: Word Processing • Other Available WP Functions • Part II. Making a Decision: Do You Really Need A Computer? • How Much Computer Do You Need? • Hardware Is All Basically Alike ... But Not Software • Should You Build the System, Or Just Turn the Key? • Off-The-Shelf Microcomputers • Selecting a Supplier • Eight Questions To Ask a Computer Salesman • System Installation. Appendix: Requirements Self-Analysis Forms. Dictionary: Business to Computer/Computer to Business

265 pp. ISBN 87567-080-6\$9.95*

*Discount: 40% w/10 copies or more, CWO.

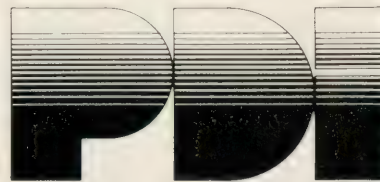
Free point-of-sales displays.

Send for our complete list of Computer Books and software.

ENTELEK

Ward-Whidden House/The Hill
P.O.B. 1303, Portsmouth, NH 03801

Circle 139 on Reader Service Card



LET OUR SOFTWARE SELL YOUR HARDWARE

Families want more than fun and games from a personal computer. Show them Program Design educational software and they'll see one way to get real value from your hardware. Our software helps children do better in school and helps adults learn new skills.

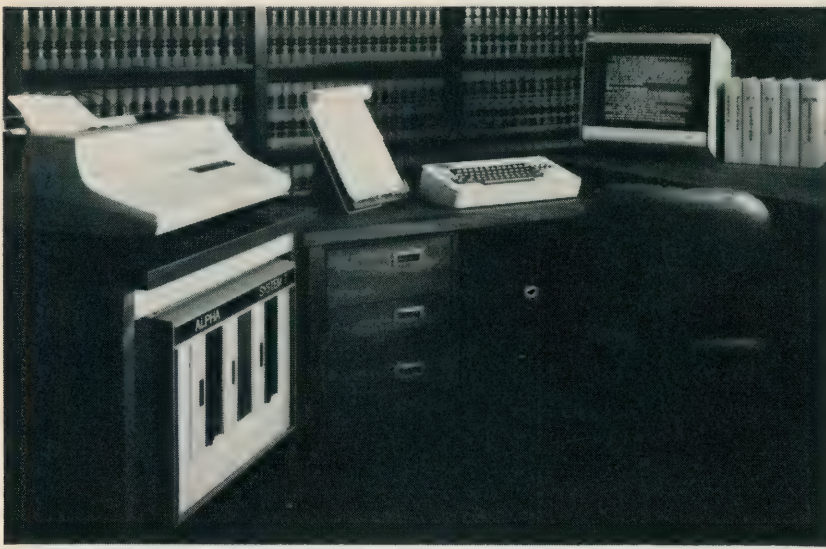
To support our dealers, Program Design:

- lists dealers in our consumer ads
- offers a dealer sampler of software
- offers demo tapes and disks
- supplies informative literature
- includes updated dealer lists in direct mail campaigns
- provides eye-catching packaging
- offers a substantial dealer discount

Send for information now. And place your orders soon to be included in the upcoming advertising and direct mail campaigns.

PROGRAM DESIGN, INC., 11 Idar Court, Greenwich, CT 06830
(203) 661-8799

Circle 140 on Reader Service Card



TURNKEY SYSTEM 4 dual drives

Called "The Accountant," this turnkey system is complete with a 4 dual drive system, impact printer, application software and Formica table on rollaway castors. Software included is general ledger, accounts payable, accounts receivable, inventory and payroll. Package price: under \$6000. **Computer Data Systems, Inc., 5460 Fairmont Dr., Wilmington, DE 19808.**

Circle 141 on Reader Service Card

DISK DRIVE SYSTEM S-100, Z80, 8080, IBM compatible

Fully assembled EAS disk system utilizes two 8" Shugart drives; drive, loader, controller, interface and cables are all contained in walnut cabinet. Storage capacity



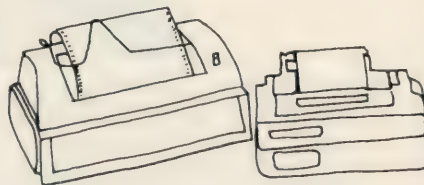
is 1/4 megabyte per drive, or half a meg per system. Recommended DOS is Digital Research's CP/M. The unit can be purchased without controller, and a 90 day parts and workmanship warranty is offered. Dealer inquiries invited. **Electro Analytic Systems, Inc., PO Box 102, Ledgewood, NJ**

Circle 142 on Reader Service Card

WORD PROCESSOR for law applications

Alpha System 7 is a Z80 based word processor specifically designed for from one to twenty or more attorneys. Unit features 56K static RAM, 45 cps letter-quality daisy wheel printer. Storage media are dual 8" IBM format 3740 floppies. Lease/Purchase prices are as low as \$300 per month, states the manufacturer; dealer inquiries are invited. **Alpha Professional Systems, Inc., 9465 Wilshire Blvd., Ste. 518, Beverly Hills CA.**

Circle 143 on Reader Service Card



MODEMS 2 speeds

This 4000-series of modems is available in 300 and 1200 bps and in both stand-alone and rack units. The 300 baud units are available with acoustic coupling



and FCC-registered direct coupling, while the 1200 baud unit is available for leased lines and FCC-registered direct coupling to dial-up circuits. **Novation, Inc., 18664 Oxnard St., Dept. Pl, Tarzana, CA 91356.**

Circle 144 on Reader Service Card

ALPHA—NUM KEYBOARD for PET computer

PERK is a plug-in, typewriter style, alphanumeric keyboard designed for the PET computer. The PERK is designed to share the PET internal keyboard interface, allowing the two keyboards to be used interchangeably. Manufacturer states that installation requires no tools, soldering or assembly. No changes or modifications are necessary in software. Selling price is \$229, wired and tested. **George Risk Industries, Inc., GRI Plaza, Kimball, NE 69145.**

Circle 145 on Reader Service Card



Advertising/PR

The Year Ahead: Buyer Sophistication Will Create New Challenges for the Computer Marketer—YOU!

by Leslie Rehbein

Camera tight on ringmaster. Pull to full shot.

Up with march music. Pull to two-shot of ringmaster and machine.

Pull to wide shot of elephants marching into circus ring with computer on back. Fade to black. Roll of office under voice.

Roll hurricane footage. Voice of ringmaster over hurricane footage.

"Ladies and gentlemen, children of all ages. . . the World's Most Wonderful Computer Corporation proudly introduces its 1979 line of life-saving, crisis averting, death-defying business computer systems!"

"That's right, friends, the computer of your dreams is finally here. . .the best of all possible worlds. . .all the performance and quality of the finest mainframe at the cost of a home-video game. . .fantastic savings and durability too!"

"Office-tested in over one million hours of continual use. Each and every machine has the durability of the Rock of Gibraltar. . .and has proved it over and over again in office-test use. . .in an environment exactly like yours."

"No matter what the weather. . ."

I make my living in advertising. Part of that job description includes the production of television commercials. In 1979, I don't plan to create a razzle-dazzle dancing girl spot for the computer manufacturer I represent. And, more importantly, I don't expect to see any commercials like that on any of the major television networks. . .not from **any** computer manufacturer.

1978 saw the beginning of a new level of sophistication among computer systems customers—including the neophyte, the first-time end user. Evidence of this new awareness was everywhere, from the high calibre of casual inquiries directed to sales representatives at trade shows to the deeply probing analysis of a machine being considered seriously for purchase.

Our industry has done well in the education of its marketplace. And, our customers now know how to shop for an electronic data processing system. He knows what to look for and what to expect from his investment. He looks for maximum value and true dollar-for-dollar justification. He expects dependability and durability. . .yes, "state of the art" in his hardware, and true problem solving—not problem creating—in his software. He expects the sale of that system to be conducted in straightforward terms, not couched in the mysterious jargon of the industry.

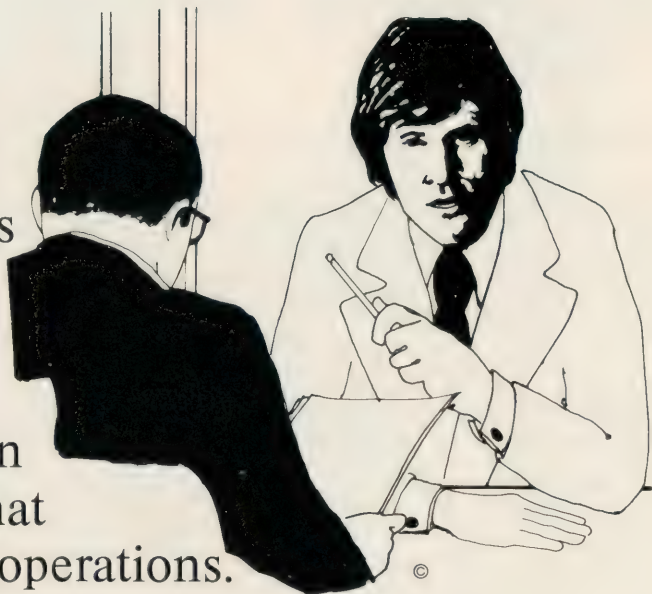
The 1979 computer buyer knows exactly what he wants his system to do. He knows what will be most beneficial to him. He already knows that he needs a computer—he just

continued on page 49

The Computer Dealer...

a sales and marketing professional

Business people turn to the professional Computer Dealer for advice on business computer systems before they buy; they look to him for the hardware, firmware, operating systems, application software and consumables that efficiently computerize their operations.



Computer Dealers rely on **Computer Dealer Magazine** for marketing information, industry news and business-oriented features on companies, selling, finance and products — articles that concentrate on business interpretation and leave technical details to the technicians.

The Magazine of Computer Merchandising

Computer Dealer

Consumer Electronics continued from page 38

for support of the system are to range from hardware such as control peripherals to software programs in educational games and applications. Educational and game libraries of the 400 can also be used with the 800.

In promoting still another aspect of the home computer market, Atari is scheduling a \$2 million national software print advertising campaign for its 28-game library for its programmable Video Computer system. Full-page, dealer-listed ads are appearing monthly in Sunday newspaper supplements. Also on the ad schedule are more than a billion household impressions on network TV primetime and sports programs and trade ads. ●

Mentioned in Consumer Electronics:

AtariSunnyvale, CA
CraigCompton, CA
InteractAnn Arbor, MI
LexiconMiami, FL
TealCarson, CA
Information on NOVAG, mentioned in last month's column, may be obtained from:
Hong Kong Trade Development Council
548 Fifth Ave.
New York, NY 10036

Advertising/PR continued from page 47

doesn't know which one—and he doesn't know why he should select yours over any other. However, in the course of his search, he'll become nearly as knowledgeable as you are.

In his search for a business system, he knows which questions to ask and how to evaluate the answers from each firm. At this point, your prospective customer has probably attended "How to Buy a Computer" seminars or "What to Look for in a Business System" workshops or done enough reading and studying on his own to have a working knowledge of what he needs. Or, if he hasn't done any of those things, he is probably keenly aware of his ignorance. . .and has retained a consultant.

Today's businessman can ill afford to risk the future of his company on a poor decision in the selection of a business computer system. He has been educated well in both the risks and advantages of computerization. He is no longer a "babe in the woods," susceptible to fantastic

Computer Dealer

Reader Input

Dear Mr. Walden:

I would like to thank you for your letter of November 29, 1978 and for your generous invitation to contribute my ideas to Computer Dealer. I am very enthusiastic about an interchange of ideas on the future of the industry and feel that Computer Dealer is an excellent vehicle for circulating these viewpoints to the marketplace.

As you know, at the present time Digital is involved in an assessment of the "retail" computer market and various ways in which to address this market. Our experimental computer store here in New Hampshire, for example, is providing us with much data and a valuable learning experience. The final results of our research are not yet known, however, so it is difficult for me to comment definitely on the future of the industry.

Again, thank you for your interest in my views. I am sorry I will not be able to respond at this time.

Sincerely,

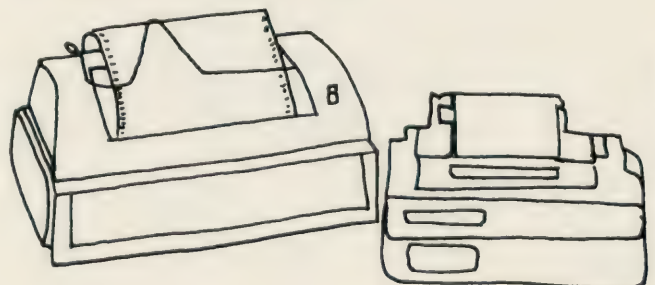
Stanley C. Olsen

Vice President

**Computer Products Group
Digital Equipment Corp.**

claims and firms with less than quality reputations. In short, he's become an intelligent consumer, thus forcing you to become a more professional salesman.

The change, as I see it, is healthy. Those of us in the industry who plan to be around for a while, welcome it. Those who are riding the crest of R2D2 and the legendary HAL of 2001, with no substance in their wares, will be forced to upgrade or be wiped out. The consumer will become the judge, the jury and, where necessary, the executioner. ●



Now Available with Assembler, Test Editor,
Disassembler and Video Display Board.

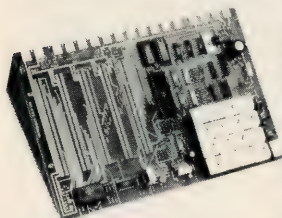
Famous \$99⁹⁵ ELF II featuring **RCA COSMAC** microprocessor/minicomputer

ELF II can get almost anyone started in computers. Excellent documentation and low cost add-ons make personal computing so exciting and easy that soon even beginners are ready to commit major dollars to computer purchases.

All Netronics
Products
Available
Both as Kits
And Fully
Assembled.



ELF II by Netronics in deluxe steel cabinet with two 4K RAM Boards, Kluge Board & GIANT BOARD™. ASCII Keyboard shown in deluxe steel cabinet. Also shown: Expansion Power Supply.



For \$99.95, Your Customer Gets All This—

The RCA COSMAC ELF II includes everything your customer needs to write and run machine language programs plus display video graphics on a TV screen. Programs that can be run on an ELF II include games, video graphics, controllers, etc. ELF II is also fully expandable.

ELF II features an RCA COSMAC COS/MOS 8-bit microprocessor addressable to 64K bytes with DMA, interrupt, 16 registers, ALU, 256 byte RAM, full hex keyboard, two digit hex output display, 5 slot plug-in expansion bus (less connectors), stable crystal clock for timing purposes and a double-sided plated-through pc board, plus the RCA 1861 video IC to display any segment of memory on a video monitor or TV screen.

See These ELF II Add-Ons And Accessories From Netronics Too!

Netronics' *Short Course on Microprocessor & Computer Programming*, by Tom Pittman • Steel Cabinet for ELF II • RF Modulator • GIANT BOARD™ with cassette I/O instructions and a system monitor/editor • Kluge (Prototype) Board • 4K Static RAM • Gold Plated 86-Pin Connectors • Professional ASCII Keyboard with 128 ASCII upper/lower case set, 96 printable characters, onboard regulator, parity, logic selection and choice of 4 handshaking signals to mate with almost any computer • Steel Cabinet for ASCII Keyboard • ELF II Tiny BASIC • Netronics' *Short Course On Tiny BASIC for ELF II*, by Tom Pittman • Expansion Power Supply • ELF-BUG™ Deluxe System Monitor • Light Pen • Color Graphics & Music System Board • Coming Soon: A-D, D-A Converter, Controller Board...and more!

Now for just \$99.95, you can get anyone into computers in an intelligent way. Featuring an RCA COSMAC microprocessor, the fascinating and powerful ELF II by Netronics includes everything needed to write and run programs, including games, video graphics, etc.

\$5 Computer Course Makes ELF II Easy!

Thanks to Netronics' *Short Course On Microprocessor & Computer Programming*, virtually any intelligent person can have a rewarding experience with ELF II that will stimulate their interest in personal computing.

The *Short Course*, which was written specifically for ELF II, explains in depth all 91 commands that the ELF II can execute, plus how to set up an ELF II (and additional hardware where required) to solve specific problems.

The *Short Course* teaches your customer the basics and will develop his desire for more power.

Then, ELF II Add-Ons Make It Fun For Your Customer To Spend Money!

ELF II add-ons deliver a tremendous amount of performance for a tiny amount of money and let your customer do all the things he thinks a computer should do.

With the *GIANT BOARD™*, your customer can record and play back programs, edit and debug programs, communicate with remote devices and make things happen in the outside world. Plug in, plug out *Kluge Boards* let him use ELF II as an integral part of special applications circuits. *ELF II Tiny BASIC* makes programming a breeze—but that's just the beginning.

Technically Advanced Add-Ons Not Available Elsewhere!

The *ELF-BUG™ Monitor*, a new breakthrough by Netronics, gives your customer instant visual access to the entire memory contents of the registers at any point in the program, plus the ability to make corrections and changes. ELF II users can debug a program with lightning speed, because single-stepping is eliminated.

Netronics has also just introduced an *ELF II Color Graphics & Music System*. With it, ELF II users can display color graphics on any color TV...while ELF II plays electronic music!

Now Every Member Of Your Computer Club Or Seminar Can Own A Computer!

ELF II was developed as an expandable trainer. First, ELF II teaches the beginner computer fundamentals. Then, add-ons give the ELF II computing power far beyond the capabilities of more expensive computers.

If you offer courses or seminars in computing, ELF II is a perfect computer for your students. In fact, ELF II's are now being used by IEEE chapters, hundreds of universities and major corporations to introduce students and personnel to microprocessor computing.

If you work with a local computer club, ELF II means that now every member can own a computer.

Unlimited Sales Potential!

ELF II is so simple that almost anyone can master it quickly. But thanks to its highly sophisticated add-ons, ELF II delivers far more user satisfaction than many larger, more expensive computers. Get an ELF II into a customer's hands and you create a true computer enthusiast.

For complete dealer information, call George Meyerle today!

Netronics Research & Development Ltd.
333 Litchfield Road • New Milford, CT 06776
Phone (203) 354-9375

Computer Dealer

Software

You can benefit directly from **Software**—an ongoing, monthly listing of applications and other software and the systems, languages, devices and **prices** that help dealers put together the best possible systems for their customers' applications.

If you **manufacture hardware**, you benefit by letting us know the details of each applications software program you may have for your equipment. This helps your dealers assemble systems and cost them accurately for particular users.

If you're a **systems house**, you benefit by knowing what applications have been written, in what language and what it takes to run them.

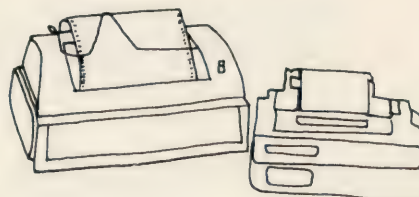
If you're a **software specialist**, you benefit by increased awareness of, and increased sales of **your software**—and you can see what the competition is doing.

If you're a **dealer** who generates his own software and sells to other dealers, you benefit by increasing your store's sales.

The Software column is no encyclopedia—it's not meant to be. But it is an information column seen by people who stay in business by knowing systems and application software—and combining the right systems and software with customers.

Computer Dealer can't do this without your help. Send in information about **your applications** software including the following information:

- The Application
- Disk or Storage System (manufacturer or type)
- Software—DOS, Program Language (C/PM, BASIC, CBASIC etc.)
- Memory Requirements
- Video or Output Device Required
- Sales Structure (Discounts for volume)
- Any Remarks (Source Listing avail-(able, special devices etc.)
- Price
- Who You Are (or your company and your Mailing Address.



APPLICATION	DISK OR STORAGE SYSTEM	SOFTWARE DOS LANGUAGE	MEMORY REQ.	VIDEO OR OUTPUT REQ.	SALES STRUCT.	PRICE	REMARKS	CONTACT
GENERAL LEDGER SOFTWARE PACKAGE IN BOOK FORM WITH PROGRAM LISTINGS IN BASIC ACCOMPANIED BY THOROUGH DOCUMENTATION. LISTINGS INCLUDE PROGRAMS FOR EDITING, SORTING, MERGING, CREATION OF CHART OF ACCOUNTS, TRIAL BALANCE IN DETAIL OR SUMMARY. INCOME STATEMENT AND BALANCE SHEET.	MIN. 2 8" DISCS	IBM 370 BASIC CONVERTIBLE TO OTHER BASICS	MIN 16 K FREE RAM	PRINTER	DISCOUNTS TO DEALERS IN QUANTITY STARTING AT 33 1/3 %	RETAIL \$49.95	PROGRAMS ARE PROMPTING, DOCUMENTED.	CREATIVE COMPUTER CONSULTANTS, INC. 1 QUARRY LANE NORWALK, CT 06841 (203) 847-0141 CIRCLE NO. 201
GENERAL LEDGER PRODUCES TRIAL BALANCE, INCOME STATEMENTS, BALANCE SHEET, CASH, PURCHASES, SALES & GENERAL LEDGER.		C BASIC		PRINTER	ONE-TIME LICENSE FEE:\$300		SOURCE CODE IN C BASIC AVAILABLE FOR ADDITIONAL \$250. PRICE INCLUDES UNLIMITED DUPLICATION RIGHTS.	ACCESS COMPUTING P.O. BOX 891 TEMECULA, CA 92390 (714) 676-4474 CIRCLE NO. 202
FEDERAL TAX RETURN PACKAGE FORMS 1040, 1040A, 1040ES, 2106, 3468, AND SCHEDULES A, B, C, C-1, C-2, C-3, D, E, G, TC AND SE.		C BASIC VER. 2		PRINTER	NO DISCOUNT ON FIRST PACKAGE: 2 ORDERABLE FOR \$1193 AND A 40% DISCOUNT ON PACKAGES THEREAFTER.	\$995 RETAIL		AARON ASSOCIATES SOFTWARE PUBLICATIONS P.O. BOX 1720A GARDEN GROVE, CA 92640 (714) 492-7633 CIRCLE NO. 203
HOME POISON CONTROL A GUIDE TO EMERGENCY MEASURES FOR ACCIDENTAL POISONING. MAINTAINS DISK FILE OF IMPORTANT PHONE NUMBERS AND OTHER HEALTH INFORMATION SUCH AS ALLERGIES.	NORTH STAR DISKETTE	NORTH STAR BASIC	8K FREE RAM	CRT MIN.		NORTH STAR DISKETTE AND MANUAL: \$28.00 MANUAL ONLY WITH LISTING AND LIBRARY LIST \$8.00		BERKELEY MEDICAL DATA ASSOCIATES P.O. BOX 5279 BERKELEY, CA 94705 (415) 653-6707 CIRCLE NO. 204
FIELD SERVICE PACKAGE FOR POLYMORPHIC DEALERS ONLY. INCLUDES COVER-ON AND COVER-OFF DIAGNOSTIC TESTS.							PACKAGE INCLUDES S-100 DISK CONTROLLER TEST CARD WITH ROM DIAGNOSTIC ROM, TWO CONNECTORS, MANUAL WITH SCHEMATICS, ASSEMBLY DRAWINGS, FLOW CHARTS AND EXAMPLES	POLYMORPHIC SYSTEMS 460 WARD DR. SANTA BARBARA, CA 93111 (805) 967-0468 CIRCLE NO. 205

Computer Dealer

Software



**THE PASCAL
Microengine
HAS ARRIVED!**

And its
... arrived with a full load
... 64K bytes of RAM memory,
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floppy disk controller with DMA ... all standard.

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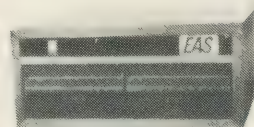
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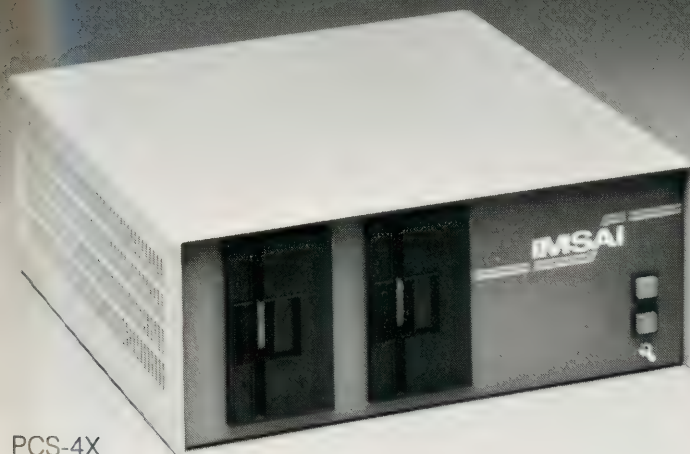
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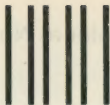
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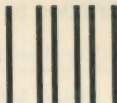
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